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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/887,273      | 06/22/2001  | Maurice S. Brookhart | CR9608USDIV9        | 5192             |

23906 7590 08/07/2002

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WILMINGTON, DE 19805

EXAMINER

RABAGO, ROBERTO

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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1713

DATE MAILED: 08/07/2002

4

Please find below and/or attached an Office communication concerning this application or proceeding.



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# Office Action Summary

Application No.

09/887,273

Applicant(s)

BROOKHART ET AL.

Examiner

Rob Rábago

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 563-574 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 563-574 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### ***Information Disclosure Statement***

1. The information disclosure statement filed 6/22/2001 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. The literature reference to Jan Tecl (1987, apparently in Russian, filed without an English abstract) has not been considered.

### ***Specification***

2. The specification is objected to for the following reasons:

a) On page 131, lines 37-38, reference is made to numerous claims. However, the claims as filed which correspond to these numbers are not the subject of the currently pending claims, and therefore would bear little or no resemblance to any claims of the same number which may issue from this application as a printed patent. Accordingly, the passage should either be amended to clearly indicate that the identified claim numbers correspond to the claims as originally filed, or be amended to include as a new insertion the actual content of the enumerated claims.

b) Pages 274 and 277 contain improper margins and garbled text due to poor photocopy centering of the pages.

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c) Page 383 contains the following sentence which is informally written in the margin: "Should be under Example 258". This entry is improper, and the page should be amended to clearly indicate the intended content. Applicants are reminded of the requirements of 37 CFR 1.52(c) as regards interlineation or alteration of the application papers made after the signing of the oath or declaration.

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 563-574 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for nickel and palladium complexes comprising a diimine ligand, does not reasonably provide enablement for any and all catalyst formulations. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

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The Federal Circuit has repeatedly held that "the specification must teach those skilled in the art how to make and use the full scope of the claimed invention without undue experimentation'." In re Wright, 999 F.2d 1557, 1561, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993). In the instant case, the claims include the use of any transition metal coordination catalyst, yet the specification includes no teaching that the claimed process could be performed with any catalyst other than one comprising nickel or palladium and a diimine coordinating ligand. The feature which distinguishes these claims over the teachings of the prior art is the making of a specifically branched polymer from monomers which the prior art has not recognized as being capable of rendering such a polymer, and one of ordinary skill in the art would not be able to successfully use catalysts within the claimed scope to obtain such an unusual branching pattern from the specified monomers without undue experimentation.

Further regarding enablement, the court has stated that "the specification must teach those of skill in the art 'how to make and use the invention as broadly as it is claimed' " In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993). In the instant case, at least as regards the scope of the catalysts, the teachings of the specification are clearly not as broad as the claims. This fact is highlighted by the implicit requirement that the catalyst of the method must provide a mechanism for polymer assembly which is contrary to the teachings of the art. Citing applicant's specification at pg. 98, the paragraph at line 30 begins: "Under certain polymerization conditions, some of the polymerization catalysts described herein produce polymers whose structure is unusual, especially considering from what compounds (monomers)

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the polymers were made", and the paragraph concludes with: "This is highly unusual, particularly for polymerizations employing transition metal coordination catalysts." The subsequent paragraph describes in some detail the nature of the unusual branching, and the passage indicates that the branching structure observed when using the disclosed catalysts is significantly different from that which would be expected in "normal" polymerizations. Clearly, applicants themselves have recognized that the unique features of the polymer specified in the claims stem from the behavior of the catalyst, and such performance features are at odds with what those of ordinary skill in the art would expect when using other catalysts within the claimed scope. The question then becomes whether the specification enables those of ordinary skill in how to use the claimed process of making polymers with unusual branching patterns using catalysts which are within the broad scope of the claims, but which were not disclosed in the specification, without undue experimentation. Given the unpredictability of the catalytic art, such a determination, involving the design, synthesis and polymerization evaluation of an unlimited array of transition metal catalysts, amounts to original research.

### ***Conclusion***

6. No prior art has been located which anticipates or renders obvious the subject matter of the instant claims. Although the scientific and patent literature has described ethylenic polymerizations which result in unusual branching patterns, the art has not described a process including all claimed limitations. Exemplary of disclosures of unexpectedly reduced branching include Ketley et al. (Polymer Letters (1968) pg. 341),

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which describes "chain straightened" polypropylene made by an apparent 1,3-polymerisation mechanism. Excess branching has been shown in each of McDaniel et al. (US 4,820,785, abstract) and Encyclopedia of Polymer Science and Engineering (1986, pp. 386-387). Also of interest is Brown et al. (US 5,942,461, paragraph bridging col. 18-19; Example 3), which describes catalysts which are substantially the same as those of the instant specification, and have described many of the unusual polymer characteristic presently claimed. However, review of provisional application 60/002,654 reveals that the instant claims have priority to a date earlier than the earliest priority date of the reference.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rob Rábago whose telephone number is (703) 308-4347. The examiner can normally be reached on 9:30 am - 3:00 pm Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (703) 308-2450. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Rob Rábago  
Examiner  
Art Unit 1713

RR  
August 2, 2002

